ADBv2-RIT Utility
User's Guide

Introduction

EPA Office of Water provides two tools that can be used to help States manage water quality assessment data for Section 305(b) Clean Water Act (CWA) reporting. One of these tools is the 305(b) Assessment Database version 2 (ADB v.2). Three versions of the ADB v.2 are currently available: one for Oracle (recommended), one for Microsoft SQL Server, and one for Microsoft Access. The ADBv2-RIT utility will work with any version of the ADB v.2. More information about the ADB v.2 is available on the Internet at http://www.epa.gov/waters/adb.

The other tool offered by EPA is the Reach Indexing Tool (RIT) for the National Hydrography Dataset (NHD). The NHD-RIT is a geographic information system (GIS) tool that allows users to delineate 305(b) waterbody segments in NHD and create event tables that store the location information for these waterbody segments. These event tables can be displayed in ArcView and used to make maps of the water quality assessment data in the Assessment Database (ADB). The NHD-RIT is part of the NHD Toolkit, which can be downloaded from http://nhd.usgs.gov/tools.html. User documentation for the NHD-RIT can be downloaded from http://www.epa.gov/owow/monitoring/georef/training.html.

While it is possible to use the ADB v.2 and Reach Indexing data together, users have been required to update the database and the Reach Indexing data separately. The purpose of the ADB-RIT utility is to provide an interface in ArcView where the user can use information available from the NHD (assessment unit size and name) to enter or update data directly in the ADB.

Requirements

Hardware Requirements

- A 800 MHz Pentium (or equivalent) personal computer with 128 MB of RAM
- A 15-inch or larger graphics color monitor
- Substantial available hard disk space (100 MB are recommended)

Software Requirements

- Windows 95/98/NT/2000/XP
- ArcView 3.2 or higher with the Database Access extension
- Microsoft ODBC for Oracle driver or Microsoft Access driver (determined by the version of the ADB v.2 used)
- NHD Toolkit version 4.1.2 or higher
- ADB v.2 (Oracle or Access version)

Data Requirements

- NHD event tables in the standard format
- NHD in ARC/INFO coverage (NHDinARC) or ArcView Shapefile (NHDinSHP) format
- A standard ADB v.2 data file (Oracle, SQL Server or Access)

If you do not have the ADB, you can request a copy by e-mailing owsupport@rti.org. User documentation and a training tutorial are also available from http://www.epa.gov/waters/adb.

If you do not already have NHD event tables that are associated with your ADB, you can create them using the NHD-RIT. The NHD-RIT user documentation and training materials can be downloaded from http://www.epa.gov/owow/monitoring/georef. When performing Reach Indexing for 305(b), the value you put in the "Entity_ID" field in the event/waterbody tables should be equivalent to assessment unit ID (ID305B) from the ADB. This ID can have any format as long as it does not exceed 50 characters in length.

While NHD coverages can be downloaded from http://nhd.usgs.gov, it is recommended that you work with the EPA's set of releveled NHD data. This will ensure that your work is compatible with EPA's reach indexing initiatives. To obtain a CDROM with EPA's NHD coverages for your State, please contact EPA's Office of Water Support Helpline at owsupport@rti.org.

Installation

Decompress the contents of the ADBv2-RIT.zip archive into a temporary folder using decompression software such as WinZip. Copy the ADBv2-RIT.avx file into your ArcView\ext32 directory (a typical path for this is C:\ESRI\AV_GIS30\ARCVIEW\EXT32). The next time you open ArcView, the ADBv2-RIT utility will be available from your **Extensions** menu in ArcView.

Set Up

The ADBv2-RIT utility uses an ODBC data source on your system to communicate with the ADB v.2 data file from ArcView. The utility looks for a data source named "ADB2_RIT." Use the following procedure to set up an ADB2_RIT data source on your system.

1. For Windows NT, 95, 98, and 2000, open the Control Panel (**Start->Settings->Control Panel**). For Windows XP, click **Start->Control Panel**.

    A. For Windows NT, click on the **ODBC** icon.
    B. For Windows 95 and 98, click on **32 bit ODBC**.
    C. For Windows 2000, click on **Administrative Tools->Data Sources (ODBC)**
    D. For Windows XP, click **Performance and Maintenance -> Administrative Tools->Data Sources (ODBC)**

2. Click on the **User DSN** tab, and choose **Add** to add a new database.

3. *If you are using the ADB v.2 Oracle version:*
    A. Select the **Microsoft ODBC for Oracle** from the list of drivers. Click **Finish**.
    B. Enter the following information (you may need to ask your Oracle database administrator (DBA) for this information):
        Data Source Name: ADB2_RIT
        Description: *Network Location for Oracle*
        User Name: *ADB User Name* (default is ADBUSER)
        Server: *ADB* (or database alias provided by DBA)
    C. Click **OK.**

    If you are using the ADB v.2 SQL server version:
    A. Select the **SQL Server Driver** from the list of drivers. Click **Finish**.
    B. In next dialog box enter **ADB2_RIT** as the name and enter **(Local)** as the server. Click **Next**.
    C. In the next dialog box, choose the radio button next to **With windows NT**

authentication using the network login ID. Click **Next**.

D. In the next dialog box, check the box next to **Change default database to:**, and choose **ADB** from the drop down menu. Click **Next**.

E. Click **Finish** in the next dialog box.

F. In the **ODBC Microsoft SQL server setup** dialog box, click on the **Test Data Source** button. A new window should open telling you that "your test was completed successfully." Click **OK** to close box and then click **OK** again to close dialog.

If you are using the ADB v.2 Access version:

A. Select **Microsoft Access Driver** from the list of drivers. Click **Finish**.

B. Now click on **Select** and locate the ADB data file. In the **Data Source Name** text box type "**ADB2_RIT**."

C. Press **OK** to register the database.

4. Click **OK** to exit the **ODBC Data Source Administrator**. Exit the **Control Panel**.

After you have followed the installation instructions, the ADBv2-RIT utility is available as an ArcView extension. To activate the ADBv2-RIT utility, open ArcView with a new View. Choose **Extensions...** from the ArcView **File** menu. Check the check box for **ADBv2-RIT utility** and click **OK**. You will be prompted for a user name and password. If your version of the ADB v.2 does not require a user name and password, you can click **Cancel** for both of these prompts. If you have set up an "ADB2_RIT" data source, then the utility will automatically connect to the ADB data file. Otherwise, it will prompt you to select an appropriate data source (Figure 1).
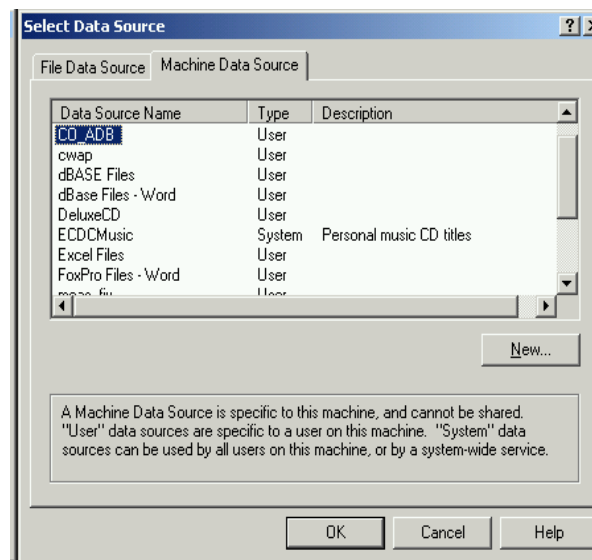

Figure 1. Select a data source that is referenced to an ADB v.2 data file.

If you do not have a data source set up for an ADB data file, click **New** and follow steps 2 and 3 above to set up a data source. If you name your data source "ADB2_RIT" you will not be prompted again.

The ADBv2-RIT utility will automatically load the NHD-RIT into your project View. You will be prompted to select a State/Cycle combination. Choose the State and cycle for which you would like to enter your data.

The ADBv2-RIT utility itself consists of one menu (Figure 2) and one tool button (Figure 3).

Figure 2. ADB-RIT utility menu.   **Figure 3.** ADB-RIT utility tool button.

The ADBv2-RIT utility allows you to make a selection in an event/waterbody table loaded with the NHD-RIT and update values in the ADB v.2. The ADBv2-RIT utility will examine the reach indexing and provide values for "Assessment Unit Name," "Assessment Unit Size" and "Water Type."

Entering/Updating Values in the ADB v.2

The ADBv2-RIT utility provides two methods for selecting assessment units in an active event/waterbody table in the View. You can use the **ADB** tool button to select an assessment unit in an active event/waterbody table in the View, or you can use the "Walk Thru" option from the ADB-RIT utility menu. The "Walk Thru" dialog (Figure 4) allows you to select an assessment unit from a list of segments in the active event/waterbody theme for updating, or you can use the **Next** button on the dialog to step through each entity in the event/waterbody table.
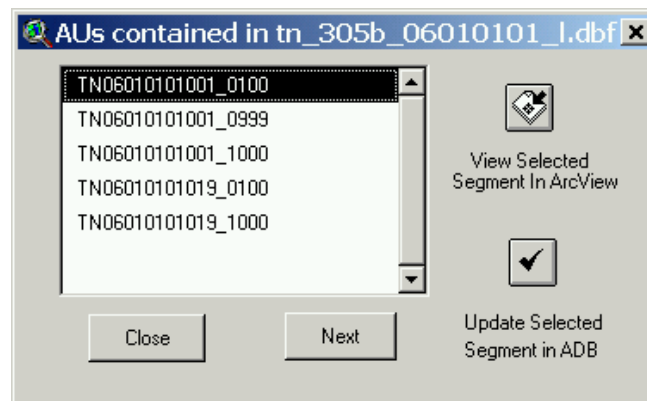

Figure 4. Walk Thru dialog.

When you update a selected segment using the **ADB** tool or the "Walk Thru" dialog, the ADBv2-RIT utility compares the assessment unit ID to the ADB data file to determine if the assessment unit already exists in the database. If a match is found in the database, you will be presented with the data currently in the ADB. You can choose to update this information based on the information available from NHD. If the assessment unit ID is not found in the database, you can add the new assessment unit to the database.

Adding a New Assessment Unit

If you select an assessment unit that is not in the database, you are presented with the "Add New Assessment Unit" dialog (Figure 5). This dialog presents you with the water type, size and assessment unit name information that is available from NHD. You may modify any of this information. If you wish to change the assessment unit ID, use the NHD-RIT to modify the value in the event/waterbody theme, then select it again with the utility.

Figure 5. Add New Assessment Unit dialog.

The "Add New Assessment Unit" dialog requires you to enter an assessment unit "Name" and "Location." This information would also be required if you were adding a new assessment unit through the ADB interface. Entering an "Assessor," "Assessed Date," and "Next Scheduled Monitoring" year is optional. You will only be able to enter a "Trophic Status" or check the "Public Lake" check box if the water type is classified as a lake, reservoir or pond.

Updating an Existing Assessment Unit in the ADB v.2

If the ADBv2-RIT utility finds a match for the assessment unit in the database, then you are presented with the "Update Assessment Unit" dialog (Figure 6). This dialog presents the information that is currently entered in the ADB.

Figure 6. Update Assessment Unit dialog

You can click on the **Get Names from NHD** button to use a stream name from NHD. If the NHD associated with the assessment unit only contains one name, the text box will be updated with that name. If multiple names are associated with the NHD, you will be prompted to select one.

You can select a water type and update the size, add a new water type, or delete a water type from the water type list (if it is not the last one). You will only be able to enter a "Trophic Status" if one of the water types is classified as a lake, reservoir or pond.

Running the ADB-RIT Utility and the ADB v.2 Concurrently

You can run the ADBv2-RIT utility and the ADB interface concurrently for data entry, if desired. You may notice that assessment units that you add through the ADBv2-RIT do not show up immediately in the Search By ID drop down list in the ADB v.2 main Assessment Units screen. Simply close the dialog, and then click on the **Assessments** button to reopen it. This will refresh the drop down list.

Troubleshooting

If you have questions or comments about the ADBv2-RIT utility, please contact owsupport@rti.org. This tool is designed to simplify the task of keeping 305(b) Reach Indexing work and the ADB v.2 database in synch. Any feedback on how this process can be improved is welcome.